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 Features:
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☐ 1: [NP_000537](#). Reports tumor protein p53...[gi:8400738]

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Comment Features Sequence

LOCUS NP_000537 393 aa linear PRI 31-OCT-2000

DEFINITION tumor protein p53 [Homo sapiens].

ACCESSION NP_000537

VERSION NP_000537.2 GI:8400738

DBSOURCE REFSEQ: accession [NM_000546.2](#)

KEYWORDS .

SOURCE Homo sapiens (human)

 ORGANISM Homo sapiens

 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

REFERENCE 1 (sites)

 AUTHORS Radhakrishnan, S.K. and Gartel, A.L.

 TITLE CDK9 phosphorylates p53 on serine residues 33, 315 and 392

 JOURNAL Cell Cycle 5 (5), 519-521 (2006)

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REFERENCE 2 (sites)

 AUTHORS Yeh, P.Y., Chuang, S.E., Yeh, K.H., Song, Y.C., Chang, L.L. and Cheng, A.L.

 TITLE Phosphorylation of p53 on Thr55 by ERK2 is necessary for doxorubicin-induced p53 activation and cell death

 JOURNAL Oncogene 23 (20), 3580-3588 (2004)

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REFERENCE 3 (sites)

 AUTHORS Wang, Y.H., Tsay, Y.G., Tan, B.C., Lo, W.Y. and Lee, S.C.

 TITLE Identification and characterization of a novel p300-mediated p53 acetylation site, lysine 305

 JOURNAL J. Biol. Chem. 278 (28), 25568-25576 (2003)

 PUBMED 12724314

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 AUTHORS Uhle, S., Medalia, O., Waldron, R., Dumdey, R., Henklein, P., Bech-Otschir, D., Huang, X., Berse, M., Sperling, J., Schade, R. and Dubiel, W.

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 AUTHORS Li, M., Luo, J., Brooks, C.L. and Gu, W.

 TITLE Acetylation of p53 inhibits its ubiquitination by Mdm2

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- AUTHORS Xie, S., Wu, H., Wang, Q., Kunicki, J., Thomas, R.O., Hollingsworth, R.E., Cogswell, J. and Dai, W.
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- AUTHORS Bahassi el, M., Conn, C.W., Myer, D.L., Hennigan, R.F., McGowan, C.H., Sanchez, Y. and Stambrook, P.J.
- TITLE Mammalian Polo-like kinase 3 (Plk3) is a multifunctional protein involved in stress response pathways
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- AUTHORS Jabbur, J.R. and Zhang, W.
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- REFERENCE 10 (sites)
- AUTHORS Saito, S., Goodarzi, A.A., Higashimoto, Y., Noda, Y., Lees-Miller, S.P., Appella, E. and Anderson, C.W.
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- AUTHORS Zhang, J., Krishnamurthy, P.K. and Johnson, G.V.
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- AUTHORS Barcia, R., Lopez-Borges, S., Vega, F.M. and Lazo, P.A.
- TITLE Kinetic properties of p53 phosphorylation by the human vaccinia-related kinase 1
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- AUTHORS Xie, S., Wu, H., Wang, Q., Cogswell, J.P., Husain, I., Conn, C., Stambrook, P., Jhanwar-Uniyal, M. and Dai, W.
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AUTHORS Buschmann,T., Potapova,O., Bar-Shira,A., Ivanov,V.N., Fuchs,S.Y.,
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AUTHORS Cuddihy,A.R., Wong,A.H., Tam,N.W., Li,S. and Koromilas,A.E.
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AUTHORS Liu,L., Scolnick,D.M., Trievel,R.C., Zhang,H.B., Marmorstein,R., Halazonetis,T.D. and Berger,S.L.
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AUTHORS Baudier,J., Delphin,C., Grunwald,D., Khochbin,S. and Lawrence,J.J.
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AUTHORS Kern,S.E., Kinzler,K.W., Bruskin,A., Jarosz,D., Friedman,P., Prives,C. and Vogelstein,B.
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AUTHORS Buchman,V.L., Chumakov,P.M., Ninkina,N.N., Samarina,O.P. and Georgiev,G.P.

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AUTHORS Zhukov-Verezhnikov,N.N., Anisimov,P.I., Goncharova,N.S., Bochko,G.M. and Karaseva,Z.N.

TITLE [Study of the heterogenetic antigens in vaccinal preparations of V. cholerae]

JOURNAL Biull Eksp Biol Med 82 (8), 961-962 (1976)

PUBMED 1088347

COMMENT REVIEWED REFSEQ: This record has been curated by NCBI staff. The reference sequence was derived from M13121.1, M22881.1, U94788.1 and X02469.1.

On Jun 9, 2000 this sequence version replaced gi:4507637.

Summary: Tumor protein p53, a nuclear protein, plays an essential role in the regulation of cell cycle, specifically in the transition from G0 to G1. It is found in very low levels in normal cells, however, in a variety of transformed cell lines, it is expressed in high amounts, and believed to contribute to transformation and malignancy. p53 is a DNA-binding protein containing DNA-binding, oligomerization and transcription

activation domains. It is postulated to bind as a tetramer to a p53-binding site and activate expression of downstream genes that inhibit growth and/or invasion, and thus function as a tumor suppressor. Mutants of p53 that frequently occur in a number of different human cancers fail to bind the consensus DNA binding site, and hence cause the loss of tumor suppressor activity. Alterations of the TP53 gene occur not only as somatic mutations in human malignancies, but also as germline mutations in some cancer-prone families with Li-Fraumeni syndrome.

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/citation=[2]
/citation=[17]
/db_xref="HPRD:01496"
Region 72
/region_name="polymorphic variant"
/note="A single base change (g or c at nt 466) gives rise to two variants with either R (more frequent) or P at aa position 72; this aa change is responsible for the observed difference in electrophoretic mobility between the two variants."
Site 81

Site /site_type="phosphorylation"
/experiment="experimental evidence, no additional details recorded"
/citation=[19]
/db_xref="HPRD:03100"
155

Site /site_type="phosphorylation"
/experiment="experimental evidence, no additional details recorded"
/citation=[4]
/db_xref="HPRD:00277"
305

Region /site_type="acetylation"
/experiment="experimental evidence, no additional details recorded"
/citation=[3]
/db_xref="HPRD:04078"
312..323
/region_name="Nuclear localization signal"

Site 315
/site_type="modified"
/experiment="experimental evidence, no additional details recorded"
/note="dephosphorylation site"
/citation=[27]
/db_xref="HPRD:04614"

Site 315
/site_type="modified"
/experiment="experimental evidence, no additional details recorded"
/note="dephosphorylation site"
/citation=[27]
/db_xref="HPRD:04615"

Site 315
/site_type="phosphorylation"

Site 315
/site_type="phosphorylation"
/experiment="experimental evidence, no additional details recorded"
/citation=[1]
/db_xref="HPRD:16016"

Site 315
/site_type="phosphorylation"
/experiment="experimental evidence, no additional details recorded"
/citation=[11]
/citation=[24]
/db_xref="HPRD:00449"

Site 315
/site_type="phosphorylation"
/experiment="experimental evidence, no additional details recorded"
/citation=[11]
/citation=[24]
/db_xref="HPRD:00310"

Site 320
/site_type="acetylation"
/experiment="experimental evidence, no additional details recorded"
/citation=[30]

Site /citation=[33]
/db_xref="HPRD:06780"
351
/site_type="modified"
/experiment="experimental evidence, no additional details recorded"
/note="ubiquitination site"
/citation=[22]

Site 357
/site_type="modified"
/experiment="experimental evidence, no additional details recorded"
/note="ubiquitination site"
/citation=[22]

Site 366
/site_type="phosphorylation"
/experiment="experimental evidence, no additional details recorded"
/citation=[37]

Site 370
/site_type="acetylation"
/experiment="experimental evidence, no additional details recorded"
/citation=[36]
/db_xref="HPRD:04078"

Site 370
/site_type="modified"
/experiment="experimental evidence, no additional details recorded"
/note="ubiquitination site"
/citation=[5]
/db_xref="HPRD:01272"

Site 371
/site_type="phosphorylation"
/experiment="experimental evidence, no additional details recorded"
/citation=[34]
/db_xref="HPRD:01498"

Site 372
/site_type="acetylation"
/experiment="experimental evidence, no additional details recorded"
/citation=[36]
/db_xref="HPRD:04078"

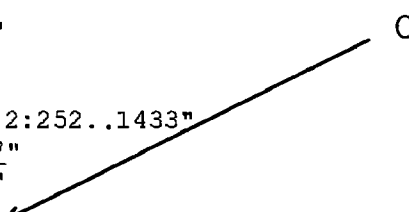
Site 372
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/experiment="experimental evidence, no additional details recorded"
/note="ubiquitination site"
/citation=[5]
/db_xref="HPRD:01272"

Site 373
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/experiment="experimental evidence, no additional details recorded"
/citation=[36]
/db_xref="HPRD:04078"

Site 373
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/citation=[21]
Site 378
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Site 381
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recorded"
/citation=[36]
/db_xref="HPRD:04078"
Site 381
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/experiment="experimental evidence, no additional details
recorded"
/note="ubiquitination site"
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/db_xref="HPRD:01272"
Site 382
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Site 382
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/experiment="experimental evidence, no additional details
recorded"
/note="deacylation site"
/citation=[15]
/db_xref="HPRD:08381"
Site 382
/site_type="modified"
/experiment="experimental evidence, no additional details
recorded"
/note="ubiquitination site"
/citation=[5]
/db_xref="HPRD:01272"
Site 386
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/experiment="experimental evidence, no additional details
recorded"
/note="ubiquitination site"
/citation=[22]
Site 386
/site_type="modified"
/experiment="experimental evidence, no additional details
recorded"
/note="sumoylation site"
/citation=[18]
/db_xref="HPRD:03554"
Site 392
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/experiment="experimental evidence, no additional details
recorded"
/citation=[24]

Site /citation=[25]
/citation=[29]
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392
/site_type="phosphorylation"
/experiment="experimental evidence, no additional details recorded"
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/citation=[25]
/citation=[29]
/db_xref="HPRD:00277"
Site 392
/site_type="phosphorylation"
/experiment="experimental evidence, no additional details recorded"
/citation=[24]
/citation=[25]
/citation=[29]
/db_xref="HPRD:00310"
Site 392
/site_type="phosphorylation"
/experiment="experimental evidence, no additional details recorded"
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/db_xref="HPRD:16016"
Site 392
/site_type="phosphorylation"
/experiment="experimental evidence, no additional details recorded"
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/citation=[50]
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CDS 1..393
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/coded_by="NM_000546.2:252..1433"
/db_xref="GeneID:7157"
/db_xref="MIM:191170"
ORIGIN
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121 svtctyspal nkmfcqlakt cpvqlwvdst pppgtrvram aiykqsqhmt evvrrcphhe
181 rcsdsdglap pqhlirvegn lrveylddrn tfrhsvvpy eppevgdct tihynymcns
241 scmggmmrrp iltiitleds sgnllgrnsf evrvcacpgr drrteenlr kkgephhelp
301 pgstkralpn ntssspqpkk kpldgeyftl qirgrerfem frelnealel kdaqagkepg
361 gsrahsshk skkgqstsrh kklmfktegp dsd
//



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